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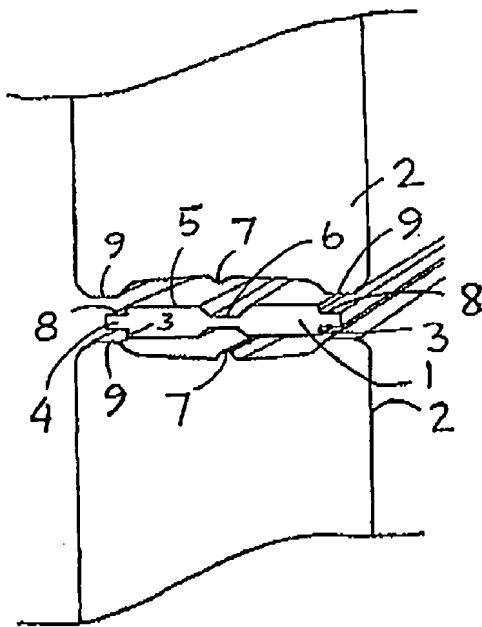
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD AND DEVICE FOR BUILDING WITH GLASS BLOCKS



(57) Abstract: A method of building with glass blocks comprises the use of an intermediate member (1) in the form of an essentially flat, preferably approximately rectangular member where longitudinal intermediate ridges (4) project from the small end faces, and where longitudinal grooves (6) or other shapes are optionally provided on the large faces for alignment to receive the boss (7) or other characteristics along the periphery of the glass block (2).

WO 02/12651 A1

WO 02/12651

PCT/NO01/00259

Method and device for building with glass blocks

The present invention relates to a method for building with glass blocks.

- 5 The invention also relates to an intermediate member for use with the method.

Recently, glass blocks have become increasingly popular in construction work and also in connection with the architectural decoration of both private dwellings and office or industrial buildings.

- 10 "Glass block" is a generic term for generally right-angled, square or rectangular building blocks consisting basically of two sheets of glass that have been fused together.

- 15 The sheets of glass may be patterned, rough, smooth and more or less transparent or translucent.

There is an air-filled cavity between the sheets of glass.

- 20 It is obvious that even though they have an astoundingly high level of rigidity and strength, building blocks of this kind are exposed to certain limitations as regards weight loads.

- 25 To date, the common building method when building with such glass blocks has been to lay a course (blocks 1, 6 and 7 in Figure 5 attached hereto), with mortar between the blocks and mortar along the top surface with reinforcing material embedded therein.

- It has then been necessary to wait until an extensive degree of setting or hardening has taken place before the next course can be laid (blocks 2, 5 and 8 in Fig. 5 attached hereto).

- 30 Obviously, such a method of building is time-consuming and protracted.

- 35 The object of the present invention is to improve the existing technique by, in a simple manner and with simple aids, both increasing the speed of construction and improving the result, and also by facilitating erection work for the private market.

WO 02/12651

PCT/NO01/00259

2

Accordingly, the present invention in a first aspect relates to a method of building using glass blocks, and this method is characterised in that between each course there is laid a continuous sectional strip, and between adjacent blocks there is placed a short piece of sectional strip having a length equal to the distance between two continuous sectional strips, made of a light, virtually incompressible, stable material having a cross-section adapted to the peripheral surface contour of the glass building block, wherein on both sides of the sectional strip or pieces of strip, between them and the glass blocks, an adhesive is applied in an amount adapted to the volume between the sectional strip or pieces of strip and the glass blocks, whereupon the joint on the outside of the outer faces of the sectional strips is filled with joint filler in a known way per se.

In a second aspect, the invention relates to an intermediate member for use when building with glass blocks, and this member is characterised in that it has the form of a substantially flat, preferably approximately rectangular member where longitudinal intermediate ridges project from the small end faces, and where longitudinal grooves or other shapes are optionally provided on the large faces for alignment to receive the boss or other characteristics along the periphery of the glass block.

The invention will be described in more detail with reference to the attached figures, wherein:

- Figure 1 shows an intermediate member according to the invention;
- Figure 2 shows the same member with adhesive applied thereon;
- Figure 3 shows a member according to the invention disposed between two glass blocks, in an exploded view;
- Figure 4 shows a finished joint between two glass blocks including an intermediate sectional strip; and
- Figure 5 shows the building method according to the invention.

Figure 1 shows the sectional strip 1 itself.

Of course, the shape of the sectional strip is dependent upon the type of glass block used, but such glass blocks are essentially standardised and in today's embodiment have along their periphery and on each side continuous contact faces 9 having a boss 7 extending essentially along the middle.

WO 02/12651

PCT/NO01/00259

3

Accordingly, the intermediate member 1 of the invention is equipped with intermediate ridges 4 extending along the short faces 3 and a channel or groove 6 formed in the large faces 5 for receiving the boss 7.

- 5 Adhesive is placed in the channel 6, the sectional strip 1 is laid on the lowermost course consisting of blocks 1, 6 and 7 once shorter pieces of strip have been placed between the same blocks and adhesive has been applied thereto.

- 10 The shorter vertical pieces of sectional strip are of such length that they take up the load from the superjacent course in that they bear against the subjacent and superjacent essentially horizontally extending sectional strips 1.

- 15 When the next course is laid, the ridge 8 comes under pressure between the contact faces 9 of the two courses whilst the applied adhesive 10 is forced out to the sides to give the necessary adhesion.

- The amount of adhesive paste applied is, of course, a matter of experience as it should essentially fill the available volume but without being forced out past the contact faces 9 and the ridge 8.

- 20 Once the second course has been thus laid and the adhesive has hardened, which by choosing the right adhesive can take place relatively quickly, the operation is repeated in that a third course is laid on the others in the same way after the short pieces of sectional strip 1' have been placed between the adjacent blocks.

- 25 Lastly, the space on the outside of the faces 4' of the sectional strip are filled with joint filler 11 in a way that is known per se.

- 30 Application of the right amount of adhesive will result in the adhesive almost filling the whole volume between the glass building block and the sectional strip, thereby providing sufficient adhesive strength.

- 35 The shorter pieces of strip 1' that are placed between adjacent blocks act as spacers so that both the vertical and horizontal distance between the glass blocks is kept relatively constant, which in turn results in uniform joints between the blocks and thus also an attractive appearance.

WO 02/12651

PCT/NO01/00259

4

In addition, the shorter vertical pieces of strip 1', as mentioned, take up much of the load from the superjacent courses.

The sectional strips of the invention can be made of any suitable material whatsoever, e.g., light metal, hard plastic or others, the other requirement being that the material is inert to the adhesive and the joint filler, and that the strip has the desired and necessary strength and stability.

The building system and sectional strip of the invention provide a substantial improvement of the possibilities for building with glass blocks, as the previous use of slow-hardening substances with embedded reinforcement is avoided and at the same more uniform and regular building with fixed distances and uniform joints is ensured.

In addition, a considerable time-saving is made, which results in substantially enhanced finances.

WO 02/12651

PCT/NO01/00259

5

P a t e n t c l a i m s

1.

A method of building with glass blocks, characterised in that between each course there
5 is laid a continuous sectional strip 1, and between adjacent blocks there is placed a short
piece of sectional strip 1' having a length equal to the distance between two continuous
sectional strips 1, made of a light, virtually incompressible stable material having a
cross-section adapted to the peripheral surface contour of the glass block 2, wherein on
both sides of the sectional strip 1 and the pieces of strip 1', between them and the glass
10 blocks 2, an adhesive is applied in an amount adapted to the volume between the
sectional strips 1 and 1' and the glass blocks 2, whereupon the joint on the outside of the
outer faces 4' of the sectional strips is filled with joint filler in a known way per se.

2.

15 An intermediate member 1 for use when building with glass blocks 2, characterised in
that it has the form of a substantially flat, preferably approximately rectangular member
where longitudinal intermediate ridges 4 project from the small end faces 3, and where
longitudinal grooves 6 or others shapes are optionally provided on the large faces 5 for
alignment to receive the boss 7 or other characteristics along the periphery of the glass
20 block 2.

WO 02/12651

PCT/NO01/00259

1/3

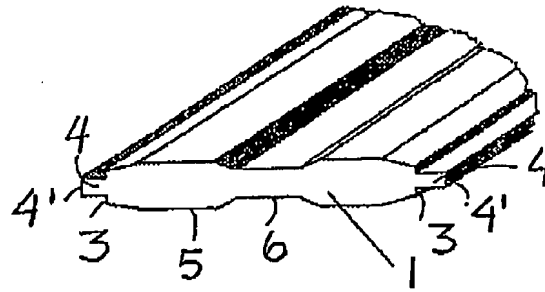


Fig. 1

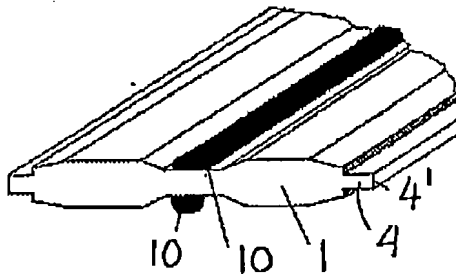


Fig. 2

WO 02/12651

PCT/NO01/00259

2/3

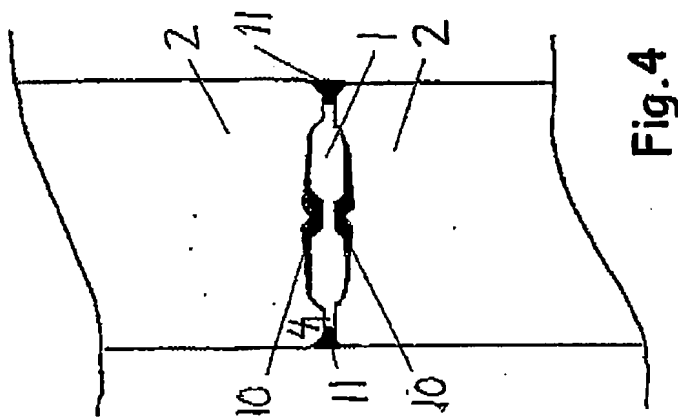


Fig. 4

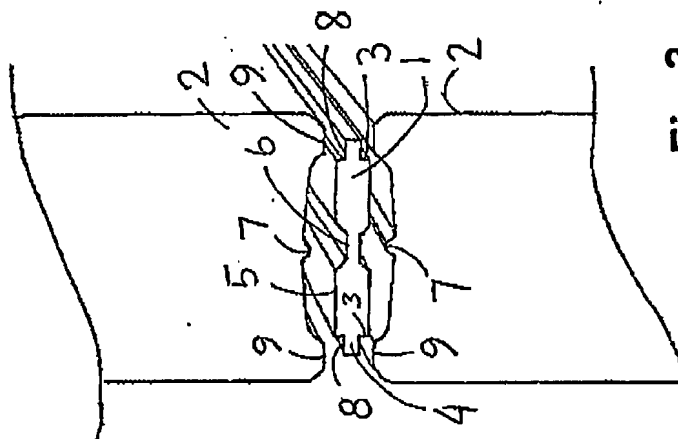


Fig. 3

WO 02/12651

PCT/NO01/00259

3/3

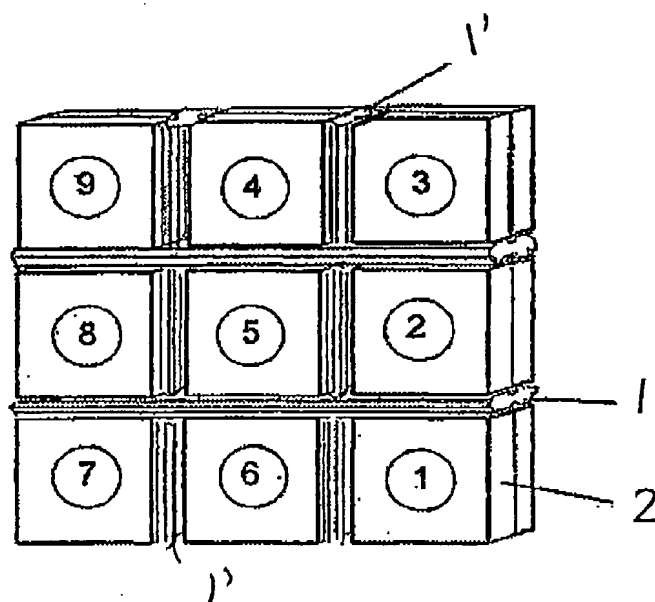


Fig. 5

INTERNATIONAL SEARCH REPORT

International application No.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC7: E04C 1/42

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: E04C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL, WPI DATA, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5907937 A (R. LOFTUS ET AL), 1 June 1999 (01.06.99), column 16, line 54 - line 56 ---	1,2
X	FR 2645195 A1 (RIBOH, S.), 5 October 1990 (05.10.90), figure 4, abstract --	1,2
X	EP 1127993 A1 (EURO-GLASHAUS, S.L.), 29 August 2001 (29.08.01), column 3, line 43 - line 53, figure 5, abstract --	1,2
A	EP 0492502 A1 (BEMOFENSTERBAU GMBH), 1 July 1992 (01.07.92), the whole document --	1,2

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

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"E" earlier application or patent but published on or after the international filing date

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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Information on patent family members

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